

REMARKS

Claims Status

Claims 1-11 were pending in the subject application. Claims 1-11 were rejected. No claims were allowed. By this amendment, claims 1, 3-6, 8-11 have been revised, claim 7 has been canceled, and new claims 12-20 have been added. Therefore, claims 1-6 and 8-20 are now pending and before the examiner for consideration.

Support For New Claims

Support for new claim 14 can be found at page 8, lines 24-26 and page 27, lines 15-16. Support for new claim 15 can be found at page 26, line 21. Support for new claim 16 can be found at page 6, line 14, page 7, line 8, and page 28, lines 3-5. Support for new claim 17 can be found at page 16, line 8. Support for new claim 18 can be found at page 8, lines 24-26 and page 27, lines 15-16. Support for new claim 19 can be found at page 16, lines 1-3 and page 19, lines 10-11. Support for new claim 20 can be found at page 19, lines 11-15.

Rejection Under 35 USC §112, Second Paragraph

Claims 3-5 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action indicated that each of the claims contains an improper Markush group since the group is not closed. Claims 3-5 have been amended to include proper Markush group language. The Office Action also indicated that use of "such as" in claim 4 renders the claim indefinite and that claim 4 uses trademarks/tradenames to identify materials. As to the phrase "such as" in claim 4, this claim has been amended to no longer include this phrase. Claim 4 has also been amended to no longer include a trademark/tradename. Withdrawal of this rejection is therefore respectfully requested.

Rejections Under U.S.C. §102(a,b)

Claims 1-11 were rejected under 35 U.S.C. 102(a,b) as being anticipated by Wang et al., (Analytical Chemistry 69:4566-4576, 1997) or Hayes et al., (Journal of Chromatography B 695:3-13, 1997).

Claims 1 (from which 2-5 and 12-15 depend), 6 (from which 8 and 9 depend) and 10 (from which claim 11 depends) have been amended to indicate that the tube structure has been subjected to a hydrothermal treatment. The prior art fails to teach a step of hydrothermally treating the capillary to achieve a more suitable concentration of silanol groups on the capillary's inner surface. The technical details of this treatment can be found on pp. 23-24 of the application. The two references cited by the examiner (Wang, et al., 1997; and Hayes et al. 1997) do not disclose hydrothermally treating a capillary. This hydrothermal treatment step is important in providing coating stability in an open tubular sol-gel column. Absent the hydrothermal treatment step, a very low concentration of free surface silanol groups in a non-uniform distribution results. Low surface silanol concentrations are inadequate to provide strong adhesion of the coating to the fused silica capillary inner surface and thus, the coating stability is diminished. See, e.g., Specification at page 2, lines 11-21. Because neither cited reference teaches hydrothermal treatment of the capillary, withdrawal of this rejection is respectfully requested.

Conclusion

The claims currently before the examiner are supported throughout the specification and are patentable over the prior art. No new matter has been added. This application is now in full condition for allowance, and such action is respectfully requested.

No fee is believed due as this paper is timely filed. The Commissioner is hereby authorized to charge any underpayment or credit any overpayment of fees under 37 CFR 1.16 or 1.17 as required by this paper to Deposit Account 50-0951.


Applicants invite the examiner to call the undersigned if clarification is needed on any matter within this amendment, or if the examiner believes a telephone interview would expedite the prosecution of the subject application to completion.



Respectfully submitted,

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